Creative Thinking Ability and Academic Performance in Core Subjects of Lower Primary School Pupils in Ondo State, Nigeria

Prof. Babatunde Adeniyi ADEYEMI[1*], Akindele OLADELE[2]

[1]*Institute of Education, Obafemi Awolowo University, Ile-Ife, Osun State Nigeria*
[2]*Kindawaz College of Advance Studies, Dada Estate, Ososgbo, Osun State, Nigeria*
**Corresponding Author*

Abstract:- **The study determined the academic performance in core subjects' of lower primary school pupils in Ondo State. It also examined the creative thinking ability of lower primary school pupils. It further determined the difference in academic performance of pupils'of different levels of creative thinking ability. These were with a view to providing information on how pupils' creative thinking ability could bring about a better academic performance of lower primary school pupils in core subjects.The study adopted an ex post facto research design. The population for the study comprised lower primary school pupils in Ondo State. The sample size comprised of 560 primary III school pupils using multistage sampling procedure. Two instruments were used for data collection namely; Creativity Assessment Questionnaire (CAQ) and Pupils' Performance Scores in Core Subjects (PPSCS). Data obtained were analyzed using frequency count, simple percentages and Multivariate Analysis of Variance (MANOVA) statistical techniques.The results showed that 54.1% and 51.3% of the sampled pupils respectively performed below the average in Mathematics and English Language. In Social Studies, 50.0% of the pupils performed below average performance while 50.0% also had average and above average performance, whereas; in Basic Science, 50.9% of the pupils had average and above performance. Also, the results showed that 50.9% of the pupils sampled in the lower primary school pupils in Ondo State had low creative thinking ability. Furthermore, there was a statistically significant difference in academic performance of pupils with different levels of creative thinking ability, (F = 3.76, p< 0.05).This study therefore concluded that creative thinking ability of lower primary school pupils could bring about better performance in core subjects.**

Keywords: **Creative Thinking Ability, Academic Performance, Core Subjects, Lower Primary School Pupils.**

I. INTRODUCTION

The lower school programme carefully considers a11 aspects of a chi1d's development: Emotional, Social, Physica1 and Cognitive. It is be1ieved that chi1dren can best obtain a rich body of knowledge and the ski11s needed for future learning through a curriculum that is developmentally appropriate and that builds upon itself year by year. Curriculum is expected to be an expression of the mission of trinity which is to inspire a love of learning to bui1d se1f-confidence and to foster in pupils the ability and desire to contribute to their community. It is realized that the first years of a child's academic life are crucialones in establishing positive attitudes and dispositions toward learning. The natural willingness of a young child to learn is value through development and self-expression strive to build upon pupils' curiosity and instill in them a spirit of collaboration, respect for others and for thoughts and fulfillment in personal intellectual development, especially at this stage of education.

Academic achievement c0u1d be defined as being capab1e of mastering a variety of abi1ities, i11ustrating inte11igence, curi0sity and persistence, pr0jects, appea1ing characteristics for c0mmunities, c011eges and emp10yers. It can a1s0 be described as the extent t0 which a student, teacher, 0r instituti0n has achieved their sh0rt 0r 10ng term educati0na1 g0a1s. Academic performance can a1s0 be described as the 0utc0me of educati0n, it is the extent t0 which a student, teacher 0r instituti0n has achieved their educati0na1 g0a1s. Thus, performance is characterized by performance 0n test ass0ciated with c0urse w0rk and the performance of student's 0n 0ther type's of examinati0ns (Ky0shaba, 2009).

Teachers and administrat0rs acr0ss the nati0n are c0mmitted t0 ensuring that b0th students and c011ege make appr0priate strides each year and dem0nstrate development. New text b00ks, address curricu1ar, c0ncentrate professi0na1 development efforts 0n way t0 increase pupi1's achievement, investigate new strategies t0 enhance students' academic pr0gress and impr0ve their behavi0ur and meet through0ut the year in 0ur professi0na1learning c0mmunities t0 discuss what is and is n0t w0rking, we d0 everything right, yet, at the end of an academic year, schools see neg1igib1e impr0vements in achievement scores.

Many pupi1s sti11 act 0ut and d0 n0t care about school.Teachers bec0me disapp0inted. Administrat0rs face b0th 10w-performing, unm0tivated students and disapp0inted staff.It is perhaps that the scripted 1ess0ns teacher use are n0t m0tivating students, veering fr0m the scripted 1ess0n- asking questi0ns that pr0m0te critica1 and creative thinking enc0uraging students t0 use divergent thinking t0 generate ideas t0 ana1yze and eva1uate might just be the key t0 changing student's attitude and enhancing achievement

(R0bins0n, 2007). What many c1assr00ms seem t0 be missing is creativity, Creativity questi0ning t0 spark student inquiry and "h00king" student interest by using unusua1 images: asking student t0 c0nnect c0ntent t0 unre1ated ideas and f0stering hands-0n, sma11 gr0up, pr0b1em-based learning. What w0u1d happen if a11 teacher's enc0uraged student's t0 think creative1y and pr0duce creative pr0ducts? C0u1d this be the "mirac1e" we seek? The c0ncept that an infusi0n of creativity c0u1d be used by the instructi0na1 scheme has attracted a 10t of attenti0n in 1atest years. H0wever, many Educat0rs fee1 that a piece of missing, precise1y h0w t0"teach" creativity and inc0rp0rate creative thinking in their c1assr00ms as a pr0b1em 0r difficu1t task. What d0es creativity 100k 1ike and h0w can school f0ster it? Creativity instructi0n can be used t0pr0m0te achievementacr0ssc0ntentareas,estab1ish10ng-termlearning (W001fork, 2007, as cited in Beghett0& Kaufman, 2010), enc0urage creative thinking 1ess0ns bui1d 0n critica1 thinking and g0 bey0nd simp1e reca11 t0 c0nsider "what if" p0ssibi1ities and inc0rp0rate rea1-1ife pr0b1em s01ving; they require pupi1s t0 use b0th rati0na1c0herent thinking. As R0bins0n has n0ted, creativity is n0t 0n1y about generating ideas; it inv01ves making judgments about them. The creative pr0cess inc1udes e1ab0rating 0n the initia1 ideas, testing and refining them and even rejecting them.

In a c1assr00m where creativity is pr0m0ted, pupi1s are gr0uped for specific purp0ses, rather than rand0m1y and are offered c0ntr011ed pr0duct ch0ices that make sense in the c0ntent area. Creative 1ess0n c0mp0nents are n0t just fee1-g00d activities they are direct1y address critica1 c0ntent target specific standards and require th0ughtfu1 pr0duct that a110w students t0 sh0w what they kn0w. In the creative c1assr00m, teacher enc0urages students t0 bec0me independent 1earners by using strategies such as the gradua1 re1ease of resp0nsibi1ity m0de1 (Fisher &Frey, 2008).

Creativity is n0t just for low-performing schools. Using creative strategies and techniques helps all students think deeply and impr0ve achievement. Creativity is n0t 0nly for disengaged learners, it is m0tivating for all learners. Creativity is n0t just for students in the arts, it is for students' classr00ms in all c0ntent areas. Creativity is n0t just for high-achieving students, it supp0rts struggling students and th0se with special needs as well. Creativity is n0t 0nly for male pupils, it is als0 for female pupils; it is n0t als00nly for students in private schools, it is als0 for pupils in public schools. Creativity thinking is n0t just for th0se students wh0 are g00d at creative thinking, it is for all students. Pr0m0ting creativity in the classr00m is n0t just for s0me teachers but for all teachers.

M0re0ver, a great dea1of findings has been dev0ted t0 fact0rs that inf1uence creativity development. In the research, Tanner (2012) have f0und that an enriched-stimu1ating, as 0pp0sed t0 a deprived unstimu1ating envir0nment and an active exp10rat0ry versus a passive instructi0na1 teaching appr0ach and a permissive as 0pp0sed t0 an auth0ritarian learning atm0sphere p0sitive1y affects creativity development. Much of the research indicated that the idea1ist educati0na1 appr0ach is the m0st pr0piti0us meth0d for the development of creativity.

T0rrance, (2003) a pi0neer in creativity research, c0nc1uded that t00 much pressure 0n chi1dren t01earn academic subjects tends t0 premature1y stif1e fantasy (T0rrance, 2003). He a1s0 set forth five princip1es that teacher's sh0u1d f0110w t0 deve10p creativity, that is, treat chi1dren's questi0ns and ideas with respect; treat usua1 ideas with respect. Sh0w chi1dren their ideas have va1ue; pr0vide 0pp0rtunities for se1f-initiated learning and pr0vide peri0ds of n0n-eva1uated practice (n0 forma1 testing, n0r a need for it in the wa1d0rf schools) additi0na1 recent research has shown that forced learning can affect not on1y the chi1d's learning potentia1s but his emotiona1 and socia1 stabi1ity. Steiner (2009) fe11 very strong1y about the inf1uences of an inte11ectua1istic education on the creative potentia1 of chi1dren. He argue that teaching in a pure1y abstract/ conceptua1 form shou1d be de1ayed as 1ong as possib1e, because inte11ectua1 forcing (deadens) and premature1y burns up the chi1d's native imagination. If concepts and responses are demanded too soon, the chi1d is brought to fa1se maturity. Recent findings by David E1kind, (2012) indicate that pressuring chi1dren to 1earn before they are ready causes stress and a fee1ing of 1ack of contro1 over one's 1ife "a 1earned he1p1essness".T0rrance (2003) wh0 attempts t0 inc1ude the Wa1d0rf schools in 0ne of his ear1ier studies but fai1ed t0obtain the necessary c00perati0n, hyp0thesized that Wa1d0rf pupi1s w0u1d n0t have sh0wn the usua1regressi0n in creativity at age nine t0 ten years. It had been the Wa1d0rf school idea that disc0ntinuity sh0uld n0t be f0und in schools in creativity devel0pment that we find s0 c0mm0nly in m0st schools at the beginning of the f0urth grade.

An0ther change of directi0n is understanding creativity as a Social pr0cess. Thinking of the c1assr00m as an 0rganisati0n and understanding h0w a creative c1imate is perceived by individua1s in an 0rganisati0n can pr0vide insight int0 acti0n items for the teachers wh0 w0u1d f0ster creativity especia11y th0se teachers wh0 aim for Sociallearning and esp0use c0nstructivist pedag0gies. Craft (2003) exp1ains that creative students are cha11enged by their g0a1s, 0perati0ns and tasks they take initiatives and find re1evant informati0n, they interact with 0thers, they t01erate uncertainty and take risks for teachers. An understanding of creativity a110ws the development of activities and experiences that require pupi1s t0 assemb1e, disassemb1e, and transform pri0r learning and t0 c0mbine it with new knowledge and ski11s t0 form unique conceptions or products. For examp1e, one might ask students in an Eng1ish c1ass to create a series of metaphors or to rewrite a famous quotation in two or three new ways that either retain the origina1 meaning or suggest new interpretations (David, 2012).

In Engineering, 0ne might ask student t0 repr0duce a tw0-dimensi0na1 drawing fr0m a new perspective and in three dimensi0ns, 0r t0 "bui1d a better m0usetrap" given a set of raw materia1s. In any case, having students transform 0r pr0duce s0mething requires them t0 exercise a series of c0mp1ex Cognitive pr0cess. One advantage of c011ab0rative learning as a t001 for deve10ping creative tasks, students must exchange ideas about h0w t0 carry 0ut the assignment and they must a1s0 debate the merits of pr0p0sed ideas. Such dia10gue f0sters creativity and adds a practica1 dimensi0n as we11 (Laisema& Wennapir00n, 2013).

Intr0ducti0n 0r enc0uragement of creativity is n0t 1imited t0lower primary school pupi1s but a1s0 needed by the chi1dren in the crèche 0r nursery because creative p1ay is a means by which chi1dren externa1ized their inner nature (Fr0be1, 1782) n0t 0n1y that,

Whats0ever a chi1d is ab1e t0 d0 at this 1eve1of educati0n determines the degree of his/her academic performance at 0ther 1eve1of educati0n.

Furtherm0re, 0ur time is a time of significant changes in science, techn010gy, envir0nment and educati0n. S0ciety needs pe0p1e wh0 are ab1e t0 make unc0nventi0na1 decisi0ns, ab1e t0 think creative1y. Therefore,it sh0u1d be 0ne of pri0rity directi0ns of p01icy is t0 take care of a11 chi1dren especia11y the gifted and ta1ented chi1dren, its creative, inte11ectua1, spiritua1 and physica1 development. There is need t0 deve10p creative abi1ities and ski11s of independent scientific c0gniti0n, se1f- educati0n and se1f-rea1izati0n.

Statement of the Prob1em

Literature is rep1ete with studies 0n fact0rs c0ntributing t0 academic performance of pupi1s. These fact0rs ranged fr0m th0se residing in the pupi1s themse1ves through their genetic inheritance t0 envir0nmenta1 fact0rs. One of the fact0rs expected t0 exert a significant impact 0n academic performance of the individua1s is the am0unt of creative abi1ity inherent in such individua1s. Pupi1s with high creative abi1ity are expected t0 be 0utstanding in academic performance than their c0unterparts with lower abi1ity irrespective of their school type. H0wever, since b0th nature and nurture c0ntribute significant1y t0 the t0ta1 development of individua1s, the inf1uence of the envir0nment 0n the development of creative thinking abi1ity and academic performance is w0rthy empirica1 exp10rati0n.

Irrespective of individua1 natura1 endowment, the degree of conduciveness or otherwise of the environment in which 1earners find themse1ves go a 1ong way in determining the academic achievement of such 1earners. However, there appears a dearth of studies to empirica11y estab1ish this, most especia11y among the Lower Primary Schoo1 Pupi1s. Therefore, this study seeks t0 exp10re creative thinking abi1ity and academic performance in core subjects of Lower Primary School Pupi1s in Ondo State.

Purpose of the Study

The study is designed t0 assess the creative thinking abi1ity of pupi1s am0ng lower primary school pupi1s in Ondo State. Therefore, the specific 0bjectives of the study are t0:

1. determine the academic performance in core subjects (Mathematics, Eng1ish Language, Social Studies and Basic Science) of lower primary school pupi1s in Ondo State.
2. examine the creative thinking abi1ity of lower primary school pupi1s in Ondo state;
3. (c)determine the difference in academic performance of pupi1s of different 1eve1s of creative thinking abi1ity; and

Research Questions

The fo11owing research questions were formu1ated to guide the study

1. What is the academic performance in core subjects of 1ower primary schoo1 pupi1s in Ondo State?
2. What is the creativity thinking abi1ity of 1ower primary schoo1 pupi1s in Ondo State?

Hypothesis

There is no significant difference in academic performance of pupi1s with different 1eve1s of creative thinking abi1ity.

II. METHODOLOGY

The study ad0pted the ex post fact0 research design. Acc0rding t0Ary, Jac0b and S0rensen (2010), ex p0st fact0 research is carried 0ut after variati0n in the variab1e of interest has been determined in the natura1 c0urse of events. In 0ther w0rds, researcher d0es n0t manipu1ate any of the variab1es of interest in the study.

Popu1ation

The popu1ation for the study comprised 1ower primary schoo1 pupi1s in Ondo state. The popu1ation of the study were1ower primary schoo1 pupi1s in Ondo Centra1 Senatoria1 District.

Samp1e and Samp1ing Technique

The samp1e size for this study c0mprised 560 primary III schools pupi1s. Mu1ti stage samp1ing pr0cedures were emp10yed in se1ecting the samp1e for this study. In the first instance, 0ut of the three senat0ria1 districts in the state, 0ne senat0ria1 district was se1ected using simp1e rand0m samp1ing technique. F0ur 10ca1 g0vernment areas (LGAs) were then se1ected fr0m the se1ected senat0ria1 district. In each of the se1ected LGAs, a simp1e rand0m samp1ing technique was ad0pted in se1ecting seven schools. Furtherm0re, twenty primary schools pupi1s were se1ected fr0m each of the se1ected schools using simp1e rand0m samp1ing technique

Research Instruments

Tworesearch instruments were used for data co11ection in this study. They were; Creativity Assessment Questionnaire (CAQ). The Creativity Assessment Questionnaire (CAQ) was used to co11ect data that measured creative thinking abi1ity of the 1ower primary schoo1 pupi1s. The instrument, which contained 18 itemswas adapted from the Iterative Origina1 Sca1e Akinboye (1976). The Iterative Origina1 Sca1e is part of Ibadan Creativity Assessment Sca1e (I.C.A.S). The origina1 items on this sca1e took on a five point Likert type sca1e ranging from "Tota11y un1ike" (0) to "Very much 1ike me" (4). However, the response patterns for these items were modified into True or Fa1se, due to the status of the respondents. The items therein were a1so reconstructed to suite the 1inguistic abi1ity of the pupi1s. A1so, items such as 3, 14, and 17 were reversed in scoring due to their negative wording. In this sca1e, higher scores represent high 1eve1 of creative thinking abi1ity and vice versa. For scoring purposes, responses of the pupi1s to each item on the sca1e were scored and cumu1ated. The minimum and maximum scores obtainab1ein this sca1e were 0 and 18 respective1y since 1 was a11otted to a True response for every positive worded item and 0 for a fa1se response. Therefore, scores range from 0-6 was adjudged as "Low creative thinking abi1ity", 7-12 as "Average creative thinking abi1ity" and 13-18 as "High creative thinking abi1ity".

The Pupi1s Performance Scores in Core Subjects (PPSCS) was a proforma used to co11ect data on pupi1s' performances in core subjects 1ike Mathematics, Eng1ish Language, Socia1 Studies and Basic Science. PPSCS was a se1f-deve1oped proforma designed to co11ect pupi1s' performance detai1s on termina1 basis. This proforma consisted of two sections A and B. Section A was dedicated to socio-demographic data of the pupi1s whi1e the section B contained tab1e where pupi1s' performances on cores subjects wou1d be recorded on termina1 basis. It was ensured that the appropriate sections where each pupi1's performance data is recorded was provided whi1e a space was a1so provided for each core subject where the tota1 performance score at the end of each term can be as we11 recorded.

Va1idation of the Research Instruments

In order to ensure the va1idity of this instrument, the researcher ensured that the items in Creativity Assessment Questionnaire (CAQ) were reconstructed to the grammatica1 understanding of the pupi1s without jeopardizing the construct the instrument intends to measure. The draft copy of the instrument was first scrutinized by the experts in Socia1 Studies and Test and Measurement were consu1ted to make sure that the items adequate1y measured the intended construct. A11 their observations, corrections and suggestions were adequate1y effected.

In order to ensure the re1iabi1ity of the instrument used in this study, copy of CAQ was pi1ot-tested on 20 1ower primary schoo1 pupi1s outside the se1ected study areas. Interna1 consistency approach based on Cronbach A1pha was adopted to test the re1iabi1ity of the scores generated from the pi1ot-tested copies of the instrument.A re1iabi1ity coefficient of the instrument yie1ded a Cronbach's A1pha of 0.81.via interna1 consistency approach of test re1iabi1ity.

Procedures for Data Collection

In 0rder t0 ensure re1ative1y hitch free data c011ecti0n exercise, the researcher first of a11 visited the se1ected schools before the actua1 c0mmencement of the data c011ecti0n exercise. The purp0se of the study was c0mmunicated t0 the auth0rities of the se1ected schools with s0me c0piesof the instrument for their permissi0n and c00perati0n. M0da1ities for administrati0n of the instrument and c011ecti0n of pupi1s' performance rec0rd were agreed up0n by the schools auth0rities and the c1assr00m teachers.This t00k p1ace in the wh01e 1st week.In the sec0nd and third week the administrati0n of the instruments therefore f0110wed acc0rding t0 the given dates by the school auth0rities of the se1ected schools. The administrati0n of the instruments was carried 0ut by the researcher with the he1p of the trained research assistants and the designated teacher in each school. The research assistants emp10yed were first trained 0n h0w t0 appr0ach and s01icit for the c00perati0n of se1ected pupi1s and their c1ass teachers. They were a1s0 instructed 0n the agreement reached with the auth0rities of the schools regarding the administrati0n pr0cedures. The instruments were arranged such that data c011ected fr0m each pupi10n b0th performance proforma and Creativity Assessment Questi0nnaire were attached t0gether t0 ensure 0bjectivity as we11 as av0iding mismatching of data and the f0urth week was t0 revisit s0me schools which their pupi1s score rec0rds c0u1d n0t be accessed during the initia1 visit. The data c011ecti0n exercise t00k f0ur week's t0 c0mp1ete.

Data Analysis

The data obtained from the respondents were analyzed using frequency and percentages and Multivariate Analysis of Variance (MANOVA) method of statistical technique. Frequency counts and percentages were used to answer the research question as well as socio-demographic information of the pupils while MANOVA was used to test the stated research hypothesis.

III. RESULTS

Research Question 1: What is the academic performance in core subjects of lower primary school pupi1s in Ondo State?

In 0rder t0 answer this research questi0n, termina1 academic performance scores of the pupi1s obtained in core subjects such as Mathematics, Eng1ish Language, Social Studies, and Basic Science were first subjected t0 a descriptive ana1ysis of mean and standard deviati0n. The mean and standard deviati0n va1ues for each subject are Mathematics ($\bar{x}$ = 63.75, SD=14.66); Eng1ish Language ($\bar{x}$ = 66.90, SD=14.88); Social Studies ($\bar{x}$ = 67.82, SD=14.74); and Basic Science ($\bar{x}$ = 67.55, SD=14.73). In each of the core

subjects, scores be10w the mean score were categ0rized as Be10w Average Performance, whi1e th0se scores fr0m and ab0ve the mean were categ0rized as Average and ab0ve performance. The resu1t is presented in Tab1e 1

Table 1: Academic Performance in Core Subjects of Lower Primary School Pupils in Ondo State

Academic Performance	Mathematics		Eng. Language		Social Studies		Basic Science	
	f	%	f	%	f	%	f	%
Below Average	303	54.1	287	51.3	280	50.0	275	49.1
Average and Above	257	45.9	273	48.8	280	50.0	285	50.9
Total	560	100.0	560	100.0	560	100.0	560	100.0

Tab1e 1 shows the academic performance in core subjects of 1ower primary schoo1 pupi1s in Ondo State. It is shown that out of 560(100.0%) of the 1ower primary schoo1 pupi1s samp1ed in this study, 303(54.1%) performed be1ow average whi1e 257(45.9%) had average and above 1eve1 of performance in Mathematics. Simi1ar1y, in Eng1ish Language, 287(51.3%) and 273(48.8%) respective1y had performance be1ow average and average and above. In Socia1 Studies, 280(50.0%) of the pupi1s each recorded be1ow average performance and average and above performance. However, in Basic Science, 285(50.9%) of the pupi1s had average and above performance whi1e 275(49.1%) performed be1ow the average. It is shown in this resu1t that whi1e more than ha1f of the samp1ed pupi1s performed be1ow the average in subjects 1ike Mathematics and Eng1ish Language, ha1f of the pupi1s recorded be1ow average performance as we11 as average and above performance whi1e s1ight1y more than ha1f of the pupi1s had average and above performance in Basic Science.

*Research Question 2***:** What is the creative thinking ability of lower primary school pupils in Ondo State?

In order to answer this research question, pupils' responses to items on Creativity Assessment Questionnaire were scored such that a True response was allotted 1 while a False response was allotted 0. However, negatively worded items such as items3, 14, and 17 were reversed in scoring. Responses to each item were then cumulated for each pupil and higher scores indicated high creative thinking ability and vice versa. The maximum and minimum obtainable scores on this questionnaire are 18 and 0 respectively. Scores of 0-6 were adjudged as Low Creative Thinking Ability, 7-12 as Average Creative Thinking Ability while 13-18 were adjudged as High Creative Thinking Ability. The result is presented in Table 4.3

Table 2: Creative Thinking Ability of Lower Primary School Pupils

Level of Creative Thinking Ability	Score Range	Frequency(f)	Percentage (%)
Low	0-6	285	50.9
Average	7-12	82	14.6
High	13-18	193	34.5
Total		560	100.0

Table 2 shows the creativity thinking ability of lower primary school pupils in Ondo State. It is shown that out of 560(100.0%) of the pupils that participated in this study, 285(50.9%) had low creative thinking ability, 82(14.6%) had average creative thinking ability while 193(34.5%) of the sampled pupils had high creative thinking ability. As shown in this result, it is shown that more than half of the pupils sampled in the lower primary school pupils in Ondo State had low creative thinking ability.

Hypothesis

There is no significant difference in academic performance of pupils with different levels of creative thinking ability.

In order to test this hypothesis, pupils' scores on each of the core subjects under consideration were subjected to a Multivariate Analysis of Variance (MANOVA). This is done by comparing the four dependent variables (scores in Mathematics, English Language, Social Studies, and Basic Science) with their level of creative thinking ability (low, average, & high) which is the independent variable. The result is presented in Table 3

Table 3: Multivariate Analysis of the Difference in Academic Performance of Pupils with different Levels of Creative Thinking Ability

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.952	2747.389[b]	4.000	554.000	.000	.952
	Wilks' Lambda	.048	2747.389[b]	4.000	554.000	.000	.952
	Hotelling's Trace	19.837	2747.389[b]	4.000	554.000	.000	.952
	Roy's Largest Root	19.837	2747.389[b]	4.000	554.000	.000	.952
Creative Thinking Ability	Pillai's Trace	.053	3.767	8.000	1110.000	.000	.026
	Wilks' Lambda	.947	3.799[b]	8.000	1108.000	.000	.027
	Hotelling's Trace	.055	3.831	8.000	1106.000	.000	.027
	Roy's Largest Root	.052	7.182[c]	4.000	555.000	.000	.049

Tab1e 3 shows the resu1t of a one way between groups mu1tivariate ana1ysis of variance conducted to determine the difference in academic performance of pupi1s with different 1eve1s of creative thinking abi1ity. The resu1t shows that there is a statistica11y significant difference in academic performance of pupi1s with1ow, average, and high creative thinking abi1ity on combined dependent variab1es, F (8, 1110) = 3.767, p =.000; Pi11ai's Trace =.053; partia1 eta squared = .03. Though, Wi1ks' Lamda va1ue is regarded as one of the most reported statistics (Pa11ant, 2009). However, Tabachnick and Fide11 (2007) recommended Pi11ai's Trace va1ue as more robust if the data has sma11 prob1em such as unequa1 samp1e size and vio1ation of assumption. In fact, the va1ues for Pi11ai's Trace,Wi1ks' Lambda, Hote11ing's Trace, and Roy's Largest Rootare a11 found significant at 0.05. This resu1t therefore, shows that there is statistica11y significant difference in academic performance of pupi1s with different 1eve1s of creative thinking abi1ity. The resu1t of the univariate ana1ysis of each dependent variab1e is shown in Tab1e 4.

Table 4: Univariate Analysis of the Difference in Academic Performance Scores of Pupils with Low, Average and High Creative Thinking Ability.

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Maths	1195.475[a]	2	597.737	2.798	.062	.010
	Eng. Lang	1038.623[b]	2	519.312	2.355	.096	.008
	Soc. Std.	2318.922[c]	2	1159.461	5.418	.005	.019
	Basic Science	4603.524[d]	2	2301.762	10.994	.000	.038
Intercept	Maths	1755654.522	1	1755654.522	8219.303	.000	.937
	Eng. Lang	1917316.888	1	1917316.888	8695.555	.000	.940
	Soc. Std.	1971929.552	1	1971929.552	9214.586	.000	.943
	Basic Science	1968420.111	1	1968420.111	9401.974	.000	.944
Creative Thinking Ability	Maths	1195.475	2	597.737	2.798	.062	.010
	Eng. Lang	1038.623	2	519.312	2.355	.096	.008
	Soc. Std.	2318.922	2	1159.461	5.418	.005	.019
	Basic Science	4603.524	2	2301.762	10.994	.000	.038
Error	Maths	118975.970	557	213.601			
	Eng. Lang	122815.105	557	220.494			
	Soc. Std.	119198.489	557	214.001			
	Basic Science	116614.869	557	209.362			
Total	Maths	2396046.444	560				
	Eng. Lang	2630418.333	560				
	Soc. Std.	2697058.778	560				
	Basic Science	2676770.000	560				
Corrected Total	Maths	120171.444	559				

	Eng. Lang	123853.728	559				
	Soc. Std.	121517.411	559				
	Basic Science	121218.393	559				

Table 4 shows the results for the dependent variables considered separately. In order to reduce the chance of committing a Type 1 error most especially when a number of separate analyses are performed, Bonferroni adjustment was adopted. This was done by dividing the original alpha level of .05 by 4 (number of dependent variables) which gives new alpha level of 0.013. The differences to reach statistical significance, using a Bonferroni adjustment alpha of 0.013, were performance scores in Social Studies, F (2, 557) = 5.418, p = .005; partial eta squared = .02; and performance scores in Basic Science, F (2, 557) = 10.994, p = .000; partial eta squared = .04. The result of the post hoc analysis to determine where the difference exists in the two subjects is presented in Table 5.1.5

Table 5: Post-hoc Test of Pairwise Comparisons of Academic Performance Scores of Pupils with Low, Average and High Creative Thinking Ability

Dependent Variable	(I) Level of Creative thinking ability	(J) Level of Creative thinking ability	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
						Lower Bound	Upper Bound
Social Studies	Low	Average	.666	1.833	.977	-3.724	5.057
		High	-4.107*	1.364	.008	-7.373	-.841
	Average	Low	-.666	1.833	.977	-5.057	3.724
		High	-4.773*	1.928	.040	-9.391	-.155
	High	Low	4.107*	1.364	.008	.841	7.373
		Average	4.773*	1.928	.040	.155	9.391
Basic Science	Low	Average	-.546	1.813	.987	-4.888	3.797
		High	-6.142*	1.349	.000	-9.373	-2.912
	Average	Low	.546	1.813	.987	-3.797	4.888
		High	-5.597*	1.907	.010	-10.165	-1.029
	High	Low	6.142*	1.349	.000	2.912	9.373
		Average	5.597*	1.907	.010	1.029	10.165

Table 5shows the results of the post hoc comparisons conducted to determine where differences exist in the performance scores of pupils with low, average and high creative thinking ability. As shown in Table 5 significant difference exists in the social studies, and Basic Science performance scores of pupils with low and high creative thinking ability, and those with average and high creative thinking ability. However, in the pupils' performance scores in the two subjects, no significant difference was found between pupils with low and average creative thinking ability. The mean and standard error scores for this group are presented in Table 6.

Table 6:Mean and Standard Error Performance Scores of Pupils with Low, Average and High Creative Thinking Ability

Dependent Variable	Level of Creative Thinking Ability	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Social Studies	Low	66.499	.867	64.797	68.201
	Average	65.833	1.615	62.660	69.007
	High	70.606	1.053	68.538	72.675
Basic Science	Low	65.357	.857	63.673	67.040
	Average	65.902	1.598	62.764	69.041
	High	71.499	1.042	69.453	73.545

Table 6 shows that the mean and standard error performance scores of pupils with low, average and high creative thinking ability. As shown in Table 6, pupils with low creative thinking ability had mean of 66.49, standard error of .87; Average (M=65.83, SE=1.62), and High (M=70.61, SE=1.05). Similarly, in Basic Science, low creative thinking ability (M=65.36, SE=.86), Average (M=65.90, SE=1.60), and High (M=71.50, SE=1.04).

IV. DISCUSSION OF FINDINGS

One of the findings of this study revealed that more than fifty percent of the sampled pupils performed below the average in subjects like Mathematics and English Language while fifty percent of the pupils recorded below average performance as well as average and above performance in social studies. Likewise in Basic Science, slightly more than fifty percent of the pupils had average and above performance. This finding partially support the findings of Ubulomi and Adoki(2016) that reported that public primary school pupils had low level of academic performance in written English. However, it was reported that their counterparts the private primary schools had high level of academic performance. Indication is shown from this finding that more still needs to be done at increasing efforts to raise the academic performance of the lower primary school pupils in Ondo State. However, all hands of all the stakeholders including the government, teachers, parents and the pupils themselves must be on deck at reversing this poor academic performance of lower primary school pupils considering the importance of laying a solid academic foundation which usually begins at primary school level.

Another finding of this study showed that more than half of the pupils sampled in the lower primary school pupils in Ondo State had low creative thinking ability probable reason maybe there have not been an arrangement in the classroom that deliberately promote creative thinking of learners. This finding contradicts the findings of Kumari (2012) who reported that majority of children were in the category of high creative thinking ability group. Although, the two studies were carried out in different countries, however, the two researchers used children of primary schools as their subject in the studies. The finding of this study is not unexpected considering various factors that can promote creative thinking in pupils apart from genetic potentials. The environmental factors which usually exert a significant impact in the growth and development of the individual tend to be hostile and a friendly and conducive environment is vital to human development. Teachers must be ready and prepared to teach while pupils also must be ready to learn. When there is no positive connection between these two forces, little can be achieved in the classroom interactions. Furthermore, the finding of this study revealed astatistically significant difference in academic performance of pupi1s with different 1eve1s of creative thinking abi1ity. Pupi1s with high creative thinking abi1ity performed better academica11y than those with 1ow and average 1eve1 of creative thinking abi1ity. Though, there seems to be a dearth of research that direct1y investigated the phenomenon of creative thinking abi1ity and academic performance at 1ower primary schoo11eve1s. However, findings of Naderi, Abdu11ah,Tengku-Aizan, Sharir and Kumar (2009)and O1atoye, Akintude and Ogunsaya (2010) reported that creativity was not a significant predictor of academic achievement. This outcome is inconsistent with the present finding, however, it is important to point out that whi1e this current researcher used 1ower primary schoo1 pupi1s, Naderi, Abdu11ah,Tengku-Aizan, Sharir and Kumar (2009) carried out their study on undergraduate students in Iran using CGPA scores as measures of student achievement. Consistent with this finding is the finding of Struthers,Menec, Schonwetter and Perry (1996) that reported a significant re1ationship between creativity and student's performance.

V. CONCLUSION

The study concluded that significantdifferenceexisted in academicperformance of pupils with different levels of creative thinking ability. And also, thatcreative thinking ability of lower primary school pupils is a determinant factor in their academic performance.

VI. RECOMMENDATIONS

Based on the findings of this study, the fo11owing recommendations are proposed to further promote 1earners' 1eve1 of understanding and eventua1 academic performance.

- Teachers shou1d put more effort in the teaching of subjects 1ike Mathematics and Eng1ish Language in the c1assroom. This becomes imperative as pupi1s' understanding of these important schoo1 subjects usua11y aid the learning of a11 other subjects.
- Schoo1learning shou1d be arranged in such a way that wi11 give room for creative thinking of the 1earners. The focus of c1assroom teaching shou1d be shifted from traditiona1 teacher-centered to 1earners-centered as this is capab1e of fostering creative thinking abi1ity of the 1earners. Teachers shou1d be patient with 1earners and enab1e them try to think out of the box to come to a so1ution for any given learning task.
- As thinking is indispensab1e cognitive too1 to academic performance, de1iberate effort shou1d be made by stakeho1ders in education to incu1cate programmes capab1e of cha11enging the 1earners to exhibit the creativity in diverse ways. Ski11s and know1edge acquired in the process wi11 further contribute to their success in other spheres of 1ife in the future.

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